CS 220

Syllabus
SPRING 2015

OVERVIEW

	CODE	SCHEDULE			INSTRUCTOR
Lecture:	CS 220-1 (CRN 18310)	TR	3:30 to 4:45	ESB 801	**Ron Reaser** | ESB 759 | email | office hours

This syllabus, course calendar, and assigned work are available via the instructor's website and should be checked regularly.

Learning Outcomes: Upon successful completion of this course, students will be well-versed in propositional and predicate logic; proof-solving techniques such as direct proof, contradiction, and mathematical induction; sets, counting, combinatorics, and probability; functions and binary relations; and graphs and algorithms upon them (as time allows). These topics will provide a broad mathematical foundation for computer science courses.

Textbook: The **required** text is *Mathematical Structures for Computer Science* 7e by Judith Gersting (ISBN 978-1-4292-1510-7 hardback). It is strictly necessary from the beginning for readings, homework problems, and reference. The previous edition 6e (ISBN 978-0-7167-6864-7 hardback) is allowed but discouraged and legacy section and problem numbers will be provided to support it. It is acceptable to share the book among your peers as long as you have access to it outside of lecture.

GRADING

Calculation: You will have 3 exams and 1 team project (worth 25% each totaling 100%). Each will be given a letter grade with corresponding point value according to the rubric below. Your homework assignments are not directly graded. Your semester grade will be the highest letter grade that the weighted average of your four grades (plus your homework bonus if any) meets or exceeds.

Team Project: The team project grade will consist of an overall grade for the team submission and an individual grade based on your personal involvement in the project as assessed by a peer survey. Teams must be of 3 to 4 voluntary members and will not be assigned.

Homework Bonus: Your assigned homework will be checked an undisclosed number of times during the semester according to a fair but random and unannounced schedule. If you are absent without excuse or have not reasonably attempted your homework or made appropriate arrangements, you will not pass the check. You must pass a majority of your checks to be eligible for your homework bonus. If you are eligible, then 0.5 bonus points will be added to your weighted average unless you have had any conduct violations.

Rubric: A/4.0 is exemplary, B/3.0 is good, C/2.0 is mediocre, D/1.0 is poor, and F/0.0 is unsatisfactory.

COURSE POLICIES

Attendance: Regular attendance is important for learning. If you do not attend, you are unlikely to pass. However, attendance will not be enforced. You are responsible for announced or unannounced work missed due to absences.

Deliverables: Projects and other assignments are to be submitted online prior to the instructor's deadline. You must retain personal, secure copies of all your work. Work must be in the correct expected format with valid content to be graded.

Exams: The exams and other in-class assessments in this course are closed book, notes, and devices without explicit permission otherwise. You must show photo identification when turning in your exams and assessments or they may not be accepted.

All exams will take place as scheduled and students forfeit any missed time. If you are unable to attend an exam because of a scheduled event or day of special concern, you must provide your instructor with notice 7 days in advance to request rescheduling. If the event is university affiliated, you must provide a written note from the associated coach or faculty. Otherwise, the instructor will determine any necessary documentation and has final discretion. If you miss an exam because of a personal, family, work, or medical emergency, you must notify the instructor no later than 24 hours after the exam session to request a make-up at the instructor's discretion. If you fail to follow these policies, your missed exam will not be graded.

Conduct: In all lecture and lab sessions, be attentive to the instructor and work only on assigned or approved material; do not arrive late or leave early without notice; do not converse loudly with others; put away all electronic devices not in use for note-taking or accessibility; treat all staff and students in a courteous and professional manner; do not be disruptive to the morale of the instructors or your peers.

UNIVERSITY POLICIES

Privacy Rights: Under the Family Educational Rights and Privacy Act of 1974, students have the right to privacy of their academic information. Without a FERPA waiver on file with the instructor or the registrar, no such information can be released to outside parties, including parents.

Accessibility: Official documentation from the Office of Accessibility Services must be provided to your instructor before any accessibility accommodations can be granted. If you are authorized for accommodations, you still must notify your instructor 7 days in advance of any requested implementation of these accommodations so that the instructor has preparation time. Otherwise, the accommodations may be denied.

Social Justice: West Virginia University and your instructor are committed to social justice and expect to foster a nurturing learning environment based upon open communication, mutual respect, and non-discrimination. Discrimination on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color, or national origin are prohibited. If you experience a violation of this policy, please contact an appropriate authority.

ACADEMIC INTEGRITY POLICY

Academic integrity is being truthful in all your commitments to the course. It is important that you fully understand the details of this policy. The following are some forms of fraud which violate academic integrity.

- Working with another person on assessed work without permission.
- Allowing others to access your work, even without knowledge or intent, or vice versa.
- Completing or submitting work for somebody else or vice versa.
- Reusing work from another semester or course without permission.
- Requesting or distributing unauthorized materials such as old exams.
- Fraudulently representing your identity or work.
- Plagiarism, the use of the work of others without attribution.

This is not an exhaustive list of possible fraudulent acts. If you believe you or somebody else may be in violation of this policy, contact your instructor immediately. Honesty about fraud is valued over denial. Suspicious activity may be investigated through interviews.

Penalties for fraud are at the instructor's discretion based on the evidence and intent of the perpetrators. The penalties are as follows.

- For a first occurrence, you will fail the offending work. You will also receive a 1-letter grade reduction in your semester grade.
- For any subsequent occurrence, you will immediately fail the course and a report on your violation will be filed to the university to be permanently recorded. You will be expelled from the course and not allowed to attend sessions. This will be final.

If fraud is detected, you will be notified via e-mail. Failure to receive or acknowledge your notification does not excuse the fraud or avoid the penalties. All communication regarding these occurrences will be handled via email, not in person, to facilitate documentation.

You may be required to complete an affidavit or worksheet on the topic of academic integrity during this course. The instructor may refuse to grade any or all work without satisfactory completion of this requirement.

CS 220

Calendar
Spring 2015

Phase 1

Chapter 1 Propositional logic
Predicate logic
Chapter 2 Proof techniques

1	
Mon 1/12	first day of classes
Tue 1/13	syllabus, intro 1.1-1.2 (1.1-1.2)
Thu 1/15	…
Fri 1/16	last day to drop
2	
Mon 1/19	**Martin Luther King Day** **Recess**
Tue 1/20	…
Thu 1/22	…
3	
Tue 1/27	**Begin Homework Checks** 1.3-1.4 (1.3-1.4)
Thu 1/29	…
4	
Tue 2/3	2.1 (2.1)
Thu 2/5	…
5	
Tue 2/10	**Exam 1**
Thu 2/12	…

Phase 2

Chapter 2 Mathematical induction
Chapter 4 Set theory
Counting principles
Permutations and combinations

6	
Tue 2/17	2.2 (2.2)
Thu 2/19	…
7	
Tue 2/24	…
Thu 2/26	4.1-4.3 (3.1-3.3)
8	
Tue 3/3	…
Thu 3/5	…
Fri 3/6	semester midpoint
9	
Tue 3/10	4.4 (3.4)
Thu 3/12	…
10	
Tue 3/17	…
Thu 3/19	**Exam 2**
Fri 3/20	last day to withdraw
SB	**Spring Break Recess**

Phase 3

Chapter 4 Binomial theorem
Probability
Chapter 5 Binary relations
Functions
Order of magnitude

11	
Tue 3/31	4.5 (3.6)
Thu 4/2	4.6 (3.5)
Fri 4/3	**Good Friday** **Recess**
12	
Tue 4/7	…
Thu 4/9	…
13	
Tue 4/14	…
Thu 4/16	5.1 (4.1)
14	
Tue 4/21	…
Thu 4/23	5.4-5.5 (4.4)
15	
Tue 4/28	…
Thu 4/30	…
Fri 5/1	last day of classes
FX	
Fri 5/8	**Project, Exam 3** 11:00am to 1:00pm

Sections are from Gersting 7e and in (blue) for 6e numbering equivalents.
Topics tentative and subject to change. Exam and Project dates may be changed with sufficient notice.